Reviewer’s report

Title: Evolution of educational inequalities in life and health expectancies at 25 years in Belgium between 2001 and 2011: a census-based study

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Reviewer: Henrik Bronnum-Hansen

Reviewer’s report:

The study analyzed changes in life expectancy (LE) and disability-free life expectancy (DFLE) in Belgium and estimated inequalities between genders and educational levels (EL) by various measures. The manuscript is a nice contribution to the literature on trends in health inequality. However, the authors do not relate the results to findings from other countries on inequalities in LE and DFLE.

I have some specific comments:

1. On page 5, line 76-78, the HIS surveys used are mentioned. I wonder why the study was not based on HIS 2001 and 2008, because HIS 2013 is too close to mortality follow-up. Please explain.

2. Page 6, line 98. The choice of ages is in line with that chosen in international comparisons. However, the authors did not make much of international comparisons!

3. Page 8, line 141-142: "The gap then progressively decreased with age" is explained by "health selectivity in ageing". First of all the decrease is not surprising or worth mentioning when looking at absolute differences!

4. Page 10. The section "Comparison with other studies" only compare the results with other studies on the population in Belgium and discuss the misleading ranking in OECD studies. Apart from OECD studies, it would be nice to see comparisons with studies on DFLE by SE position or at least by EL from other countries.

5. On page 12, line 247-257, the authors discuss the effect of EL on the results when comparing different birth cohorts. The change in EL composition and LE was also assessed in a Danish study (https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-12-994).

6. Page 12, line 260-261: "... This is to be accounted for when comparing with studies classifying EL in more or different categories". Please, add comparisons.

7. Page 12, line 263-270. This section does not really add much to what has already been written.
Minor comments:

8. On page 4, line 51-52, is stated that in Belgium, the study of inequalities … started in the mid-nineties, but the papers referred to (22-27) were all published after 2003. I guess that the oldest data that has been used was from the mid-nineties.

9. Page 6, line 95: change "… we when grouped…” to "… we then grouped…”

10. Reference List: ref no 20 equals ref no 45.

Appendix Table 1: I assume that "Low + missing" for Males is the same category as "low" for Females.

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